

#### Gluten

#### **Source: TH**

**Gluten**, a <u>protein complex</u> primarily found in <u>wheat</u>, **barley**, and **rye**, is celebrated for its utility in the food industry but is infamous for causing gluten-related disorders like <u>coeliac disease</u>, a condition affecting **around 2%** of the population.

- Gluten is composed of proteins, mainly gliadins and glutenins, formed when water is added to certain cereal flours.
  - It provides elasticity to dough, allowing it to rise and imparting chewiness to baked products.
  - Naturally found, it can be extracted, concentrated, and incorporated into food and other products to enhance protein content, texture, and flavor.
- Gluten resists complete digestion due to the <u>enzyme protease</u> being inefficient in breaking it down. Undigested gluten may lead to gastrointestinal disorders.
  - A protease, also called a peptidase, proteinase, or proteolytic enzyme, is an enzyme that degrades proteins into smaller polypeptides or amino acids.
- Coeliac Disease is an autoimmune condition triggered by gluten that damages the small intestine, prompting the immune system to produce a large number of antibodies that attack the body's own proteins.
  - Maintaining a diet very low in gluten is the only effective way to treat coeliac disease at present.

### What is cluten?

Gluten is present in cereals, such as wheat, barley and rye. In 100gm of wheat, there is generally 8gm of gluten

It provides special properties to the wheat flour that it forms a good dough for making breads, chapattis, pasta and other food items

#### Can it be dangerous?

Ingestion of gluten can cause celiac disease - a chronic inflammatory disorder of small intestine

- in those with certain genetic issues In such patients, the gluten protein

is not digested completely, causing damage to the small intestine where food is absorbed



## 1 in every 140 Indians said to suffer from celiac disease in India

Symptoms Recurrent diarrhoea, failure to gain weight, weakness, anaemia, irritability and behavioural issues, infertility

Only available treatment for celiac disease is strict and life-long avoidance of food that contains gluten

There is no data available on its prevalence. However, many patients are experimenting with gluten-free diet for relief from gastro-intestinal health issues, for example, irritable bowel syndrome

Many people who do not have celiac disease can also be sensitive to gluten

# FOOD ALLOWED

pulay, biryani

Bakery products biscuits prepared with rice flour

weets and confectioneries sugar candy, besan laddoo, kheer

Brayranates milk, buttermilk, coffee, tea

SOME **EXAMPLES** OF GLUTEN-FREE DIET

FOOD NOT ALLOWED wheat, maida (refined wheat flour), barley

interventional bread, burger

weets and confectioneries chocolates, toffees, ice-cream, jalebi, barfi

(4) (4) (4) (5) canned soup, commercial nutritional drinks

Read more: Celiac Disease - Drishti IAS

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